

CONDITIONAL PROBABILITY

Theorem: If A and B are two dependent events then the probability of occurrence of A given that B has already occurred and is denoted by $P(A/B)$ is given by

$$P(A / B) = \frac{P(A \cap B)}{P(B)} \Rightarrow P(A \cap B) = P(A / B) \cdot P(B)$$

Similarly, the probability of occurrence of B given that A has already occurred is given by

$$P(B / A) = \frac{P(A \cap B)}{P(A)} \Rightarrow P(A \cap B) = P(B / A) \cdot P(A)$$

KEY TAKEAWAYS

- Conditional probability refers to the chances that some outcome occurs given that another event has also occurred.
- It is often stated as the probability of B given A and is written as $P(B|A)$, where the probability of B depends on that of A happening.
- Conditional probability can be contrasted with unconditional probability.

Guided by: Nikita Hatwar mam

Group Members:

102_Gauri Bharate

104_Gayatri Nikame

106_kasturi Deogirkar

107_khushali Dhakate

114_Shraddha Marsattiwar